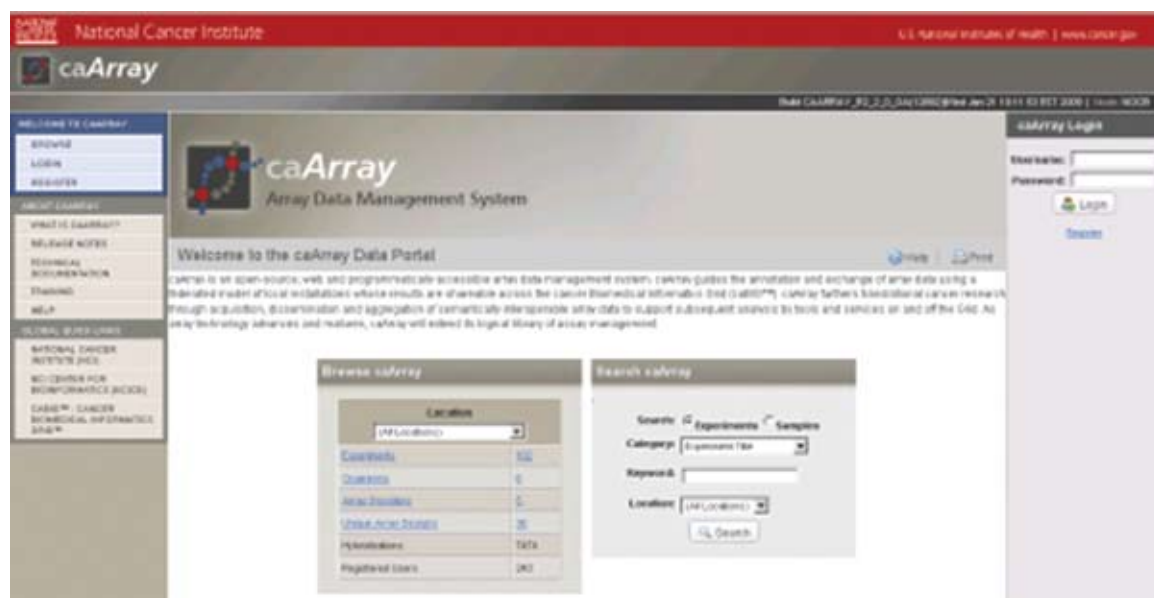LIFE SCIENCES DISTRIBUTION

caArray

Microarray data management system

caArray enables the annotation and exchange of microarray data using a federated model of local installations whose data are shareable across the cancer Biomedical Informatics Grid® (caBIG®). As a grid data service, caArray furthers translational cancer research through acquisition, aggregation and dissemination of semantically interoperable array data to support subsequent analysis by tools and services on and off the Grid. As array technology advances and matures, caArray will extend its library of assay management capabilities.

Features

- Open source, role-based, Web and programmatically-accessible array data management system
- East-to-use web-based forms for submission and annotation of data consistent with MIAME guidelines
- Bulk data import of MAGE-TAB files
- Group-based permission scheme enables secure pre-publication data sharing with collaborators
- Submission and retrieval of Affymetrix, Agilent, GenePix, Illumina and Nimblegen native expression array files
- Submission and retrieval of Affymetrix and Illumina native SNP array files
- Submission and retrieval of Agilent and Nimblegen native array CGH files
- Submission and retrieval of Agilent native miRNA array files
- Submission and retrieval of Affymetrix native copy number analysis results

caArray interface

Categories of Use

☐ Biospecimens	■ **Data Sharing**	☐ Imaging	☐ Proteomics
☐ Clinical Trials Management	☐ Genome Annotation	■ **Microarrays**	☐ Translational Research
☐ Data Analysis & Statistical Tools	☐ Infrastructure	☐ Pathways	☐ Vocabularies

caArray
Microarray data management system

Architecture Overview

- **Application type:** Web application–remote application with data uploads/downloads through Web interface

- **System requirements:** While caArray is a Web-based application, it does have a dependent software stack that includes MySQL database, a JBoss middle tier server, optional LDAP server for non-database authentication, and network infrastructure (LAN)

Installation and Administration

- **Skill sets needed:** System administration and full access rights to the deployment environment; these may include Unix root access as well as database administrator access

- **Infrastructure needed:** The installation checks for existing environment dependencies and either respects them if they exist or acquires the corresponding versions of JBoss and MySQL

- **Long-term administration needs:** Updates will be provided through GUI installers

Resources

Tool Overview Page	https://cabig.nci.nih.gov/tools/caArray
Primary Workspace	Integrative Cancer Research (ICR) https://cabig.nci.nih.gov/workspaces/ICR
Knowledge Center	https://cabig-kc.nci.nih.gov/Molecular/KC/index.php/Main_Page
caArray Users LISTSERV	https://list.nih.gov/archives/caarray_users-l.html
caBIG® Tool Inventory	https://cabig.nci.nih.gov/inventory
NCI Center for Bioinformatics Applications Support	ncicb@pop.nci.nih.gov

Key Contributors:

- 5AM Solutions
- Columbia University
- Jackson Labs
- Lawrence Berkeley National Laboratory
- NARTec
- NCI Center for Bioinformatics and Information Technology
- Science Applications International Corporation
- TerpSys
- Washington University

Other Life Sciences Distribution Components:

- Cancer Genome-Wide Association Studies (caGWAS)
- caTissue Suite
- Clinical Trials Object Data System (CTODS)
- geWorkbench
- National Biomedical Image Archive (NBIA)